



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0419; Directorate Identifier 2012-NM-129-AD;**

**Amendment 39-17800; AD 2014-05-28]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-400 series airplanes. This AD was prompted by reports of excessive wear on the lower latch surface of the main landing gear (MLG) up-lock hook. This AD requires revising the maintenance program. We are issuing this AD to detect and correct up-lock hooks worn beyond the wear limit, which could prevent the successful extension of the MLG using the primary landing gear extension system, which in combination with an alternate extension system failure could result in the inability to extend the MLG.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at

<http://www.regulations.gov/#!documentDetail;D=FAA-2013-0419-0002> or in person at

the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7318; fax (516) 794-5531.

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to certain Bombardier, Inc. Model DHC-8-400 series airplanes. The NPRM published in the Federal Register on May 14, 2013 (78 FR 28156). The NPRM was prompted by reports of excessive wear on the lower latch surface of the main landing gear (MLG) up-lock hook. The NPRM proposed to require revising the maintenance program. We are issuing this AD to detect and correct up-lock hooks worn beyond the wear limit, which could prevent the successful extension of the MLG using the primary landing gear extension system, which in combination with an alternate extension system failure could result in the inability to extend the MLG.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-21, dated June 25, 2012 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

The main landing gear up-lock assembly part number (P/N) 46500-7 was introduced as the terminating action to AD CF-2002-13R2 [<http://www.regulations.gov/#!documentDetail;D=FAA-2013-0419-0002>]. The main landing gear up-lock assembly P/N 46500-9 was later introduced as a product improvement and has the same up-lock hook as P/N 46500-7.

Due to a delay in the release of the new Maintenance Review Board (MRB) task associated with P/Ns 46500-7 and 46500-9, it is anticipated that in-service aeroplanes may be operating with up-lock hooks worn beyond the wear limit. An up-lock hook worn beyond the wear limit could prevent the successful extension of the main landing gear using the primary landing gear extension system. In combination with an alternate extension system failure, this could result in the inability to extend the main landing gear.

This [Canadian] AD mandates the incorporation of the MRB task number 323100-202.

MRB Task Number 323100-202 adds a functional check of the main landing gear up-lock assembly latch to the maintenance program. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2013-0419.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Request for Clarification of Maintenance Program Requirement**

Horizon Air requested that we revise paragraph (g) of the NPRM (78 FR 28156, May 14, 2013) to clarify which maintenance program (the operator or maintenance program in PSM 1-84-7) would require revision. Horizon Air also asked whether the operators are required to put the MRB task into their program and revise PSM 1-84-7, or just revise PSM 1-84-7.

We agree to clarify. We have revised the language in paragraph (g) by replacing the phrase “revise the maintenance program” with the phrase “revise the maintenance or inspection program as applicable.” The AD requires revising the maintenance or inspection program, as applicable, to incorporate the information in Bombardier Temporary Revision MRB-66, dated December 7, 2011, to Section 1-32, Systems/Powerplant Maintenance Program of MRB Report Part 1, Bombardier Q400 Dash 8 Maintenance Requirements Manual, PSM 1-84-7. We have revised the introductory text of paragraph (g) of this final rule to include this terminology.

### **Request for Clarification of Procedures**

Horizon Air requested clarification of the procedures to be used to accomplish the actions specified in paragraph (g) of the NPRM (78 FR 28156, May 14, 2013). Horizon Air stated that paragraph (g) would mandate implementation of Task Number 323100-202 into the maintenance program, but is silent on which procedures are used to accomplish the task.

We agree to clarify. This final rule requires incorporating Task Number 323100-202, as introduced by Temporary Revision (TR) MRB-66 into the maintenance

or inspection program. Bombardier Temporary Revision MRB-66, dated December 7, 2011, to Section 1-32, Systems/Powerplant Maintenance Program of MRB Report Part 1, Bombardier Q400 Dash 8 Maintenance Requirements Manual, PSM 1-84-7 provides information on how to accomplish the task. No change has been made to this final rule in this regard.

#### **Request for Credit for Actions Done Previously**

Horizon Air requested that we allow credit for actions done prior to the effective date of the AD using airplane maintenance manual (AMM) Task Number 32-31-21-220-801 for the corresponding actions specified in paragraphs (g)(1), (g)(2), and (g)(3) of the NPRM (78 FR 28156, May 14, 2013).

We agree to allow credit as requested. The final rule provides an initial compliance time for the performance of MRB Task Number 323100-202. If the operator has already performed the initial task using AMM Task 32-31-21-220-801, then the intent of the final rule is met for the initial task. No change has been made to this final rule in this regard.

### **Request to Allow Replacement of Up-lock with Serviceable Up-lock**

Horizon Air (the commenter) requested that we revise paragraph (h) of the NPRM (78 FR 28156, May 14, 2013) to require that replacement up-locks be “serviceable” rather than “new.” The commenter stated that operators are required to purchase zero time “new” up-locks to meet the intent of the final rule, which places an unnecessary financial burden on operators.

We agree with the commenter that operators should be allowed to use a serviceable (i.e., reworked) up-lock. Paragraphs (h)(2)(i), (h)(2)(ii), (h)(2)(iii), and (h)(4)(ii), as stated in the NPRM (78 FR 28156, May 14, 2013), give the option to replace the affected parts with new or reworked (serviceable) parts, or a new up-lock assembly. No change has been made to this final rule in this regard.

### **Request to Change Heading of Paragraph (h) of the NPRM (78 FR 28156, May 14, 2013)**

Horizon Air (the commenter) requested that we change the heading for paragraph (h) of the NPRM (78 FR 28156, May 14, 2013) to “Optional Method of Compliance.” The commenter stated that the paragraph provides instructions that may be used in lieu of the initial functional check required by paragraph (g).

We agree with the commenter. We have changed the heading of paragraph (h) of this final rule to “Optional Method of Compliance.”

### **Request to Allow Operators to Reduce the Repetitive Intervals**

Horizon Air (the commenter) requested that the requirements of paragraph (i) of the NPRM (78 FR 28156, May 14, 2013) be changed to allow operators to set repetitive intervals at times less than those required by Bombardier Temporary Revision MRB-66, dated December 7, 2011. The commenter stated the language in paragraph (i) of the NPRM is too restrictive in regard to the repetitive intervals.

We agree to clarify the repetitive interval that is specified in Bombardier Temporary Revision MRB-66, dated December 7, 2011. In paragraph (g) of this final rule, we have added a sentence to specify that the repetitive interval is not to exceed 6,000 flight hours or 60 months, whichever occurs first. Because the compliance time is specified as “not to exceed” the interval, operators are allowed to do the actions earlier than the specified interval. We have not changed paragraph (j) of this final rule (referred to as paragraph (i) of the NPRM (78 FR 28156, May 14, 2013)), which specifies that no alternative intervals may be used unless the intervals are approved as an alternative method of compliance in accordance with the procedures specified in paragraph (l) of this final rule.

## **Request to Remove Reporting Requirements**

Horizon Air (the commenter) requested that we remove the reporting requirements from the NPRM (78 FR 28156, May 14, 2013). The commenter stated that the AMM task and TR MRB-66, dated December 7, 2011, of PSM 1-84-7, do not include a reporting requirement. The commenter stated that an operator that performed the AMM task or the MRB task prior to the release of the final rule would not have recorded the wear dimensions because there was no requirement to record it in either task. The commenter stated that to force operators who have proactively accomplished the inspection to go back and perform the task again just to get a wear measurement to fulfill the requirements of paragraph (j) of the NPRM places an unnecessary financial burden on the operator, and provides data that do nothing to enlighten the manufacturer to the amount of hook wear occurring on high-time up-locks.

We agree that any operator that has performed the AMM task prior to publication of the NPRM (78 FR 28156, May 14, 2013) would not have recorded any dimension. However, we disagree with the request to remove the requirement entirely, because it is beneficial for any operator that has not performed the required task to submit the report. We have revised paragraph (j) of this final rule to state: “For airplanes on which the requirements of paragraph (g) or (h) of this AD have been accomplished after the effective date of this AD: Within 30 days after the functional check, submit a report of the initial functional check findings using Form No ISETS-03-AOM Q400 in Bombardier Q400 All Operator Message DHC8-400-AOM-515, Revision 2009-06-24,



dated April 4, 2012. Send the report to Bombardier, Inc., Technical Help Desk, phone: 416-375-4000; fax: 416-375-4539; e-mail: [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com).”

### **Other Changes to this Final Rule**

We have revised the introductory text to paragraph (g) and paragraphs (g)(1), (g)(2), and (g)(3) of this final rule to clarify the requirements regarding the compliance time for doing the initial functional check. The compliance time has not changed.

We have removed the reference to Bombardier Repair Drawing 8/4-32-0190, Issue 1, dated April 2, 2012, in paragraph (h)(3) of this final rule because the introductory text of paragraph (h) already refers to the service information.

We have also added new paragraph (i) to this final rule to allow credit for using Bombardier Repair Drawing 8/4-32-0190, Issue 1, dated April 2, 2012. We have re-designated subsequent paragraphs accordingly.

### **Conclusion**

We reviewed the relevant data, including the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these changes:

- Are consistent with the intent that was proposed in the NPRM (78 FR 28156, May 14, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 28156, May 14, 2013).

### **Costs of Compliance**

Based on the service information, we estimate that this AD affects about 83 products of U.S. registry. We also estimate that it takes about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$7,055, or \$85 per product.

### **Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave., SW, Washington, DC 20591, ATTN: Information Collection Clearance Officer, AES-200.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

“Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0419-0002>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**2014-05-28 Bombardier, Inc.:** Amendment 39-17800. Docket No. FAA-2013-0419; Directorate Identifier 2012-NM-129-AD.

### **(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001 and subsequent, equipped with a main landing gear (MLG) up-lock having part number 46500-7 or 46500-9.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing gear.

**(e) Reason**

This AD was prompted by reports of excessive wear on the lower latch surface of the MLG up-lock hook. We are issuing this AD to detect and correct up-lock hooks worn beyond the wear limit, which could prevent the successful extension of the MLG using the primary landing gear extension system, which in combination with an alternate extension system failure could result in the inability to extend the MLG.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Maintenance/Inspection Program Revision**

Within 30 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the information specified in Task Number 323100-202 of Bombardier Temporary Revision MRB-66, dated December 7, 2011, to Section 1-32, Systems/Powerplant Maintenance Program of MRB

Report Part 1, Bombardier Q400 Dash 8 Maintenance Requirements Manual, PSM 1-84-7. The compliance time for the initial functional check is at the applicable time specified in paragraph (g)(1), (g)(2), or (g)(3) of this AD. The compliance time for the repetitive interval is at intervals not to exceed 6,000 flight hours or 60 months, whichever occurs first.

Note 1 to Paragraph (g) of this AD: The maintenance or inspection program revision required by paragraph (g) of this AD may be done by inserting a copy of Bombardier Temporary Revision MRB-66, dated December 7, 2011, to Section 1-32, Systems/Powerplant Maintenance Program of MRB Report Part 1, Bombardier Q400 Dash 8 Maintenance Requirements Manual, PSM 1-84-7. When this temporary revision has been included in general revisions of the PSM, the general revisions may be inserted in the PSM, provided the relevant information in the general revision is identical to that in TR MRB-66.

(1) For up-lock hook assemblies that have 15,000 total flight cycles or more as of the effective date of this AD: The compliance time for doing the initial functional check is within 600 flight cycles after the effective date of this AD.

(2) For up-lock hook assemblies that have 12,000 total flight cycles or more, but fewer than 15,000 total flight cycles, as of the effective date of this AD: The compliance time for doing the initial functional check is within 1,200 flight cycles after the effective date of this AD, but before the accumulation of 15,600 total flight cycles on the assembly.

(3) For up-lock hook assemblies with fewer than 12,000 total flight cycles as of the effective date of this AD: The compliance time for doing the initial functional check is within 6,000 flight cycles after the effective date of this AD, but before the accumulation of 13,200 total flight cycles on the assembly.

**(h) Optional Method of Compliance**

For any up-lock assembly outside the wear limit specified in the Inspection Notes of Bombardier Repair Drawing 8/4-32-0190, Issue 2, dated January 14, 2013; and on which the up-lock roller on the MLG shock strut is free to rotate and free of any damage or flat spots on the riding surface: In lieu of doing the initial functional check, as required by paragraph (g) of this AD, accomplishing the actions specified in paragraphs (h)(1) through (h)(4) of this AD in accordance with Bombardier Repair Drawing 8/4-32-0190, Issue 2, dated January 14, 2013, may be done. However, as of 36 months after the effective date of this AD, the initial functional check must be done in accordance with the requirements of paragraph (g) of this AD.

(1) Do a detailed inspection for deformation, corrosion, or broken springs of the up-lock assembly of the MLG. If deformation, corrosion, or broken springs are found, before further flight, replace the spring.

(2) Measure the groove depth of the lower latch working surface.

(i) If the groove depth is greater than or equal to 0.022 inch, before further flight, replace the up-lock assembly part number (P/N) 46500-7 or 46500-9 with a new assembly, or an assembly with a new or reworked hook installed.

(ii) If the groove depth is greater than 0.017 inch and less than or equal to 0.0215 inch: Within 600 flight cycles after accomplishing the measurement, do the up-lock inspection as specified in paragraphs (h)(1) and (h)(2) of this AD, and repeat the inspections thereafter at intervals not to exceed 600 flight cycles. Replacing the up-lock hook with a new or reworked hook, or installing a new up-lock assembly, terminates the repetitive inspections.

(iii) If the groove depth is between 0.0215 and 0.0220 inch: Within 300 flight cycles after the measurement, replace the up-lock hook with a new or reworked hook, or with a new up-lock assembly.

(3) Unless already accomplished, within 6,000 flight hours or 36 months after doing the initial inspection specified in paragraph (h)(1) of this AD: Replace the up-lock assembly with a new assembly, or a new or reworked hook installed.

(4) Inspect the up-lock roller on both main gear shock struts for freedom of movement.

(i) If the up-lock roller cannot be freely rotated by finger force, or any flat spots exceeding 0.060 inch (across the flats) are found, before further flight, replace the up-lock roller.

(ii) Repeat the inspections thereafter at intervals not to exceed 50 flight hours until the up-lock has been replaced with a new assembly, or a new or reworked up-lock hook has been installed. Replacing the up-lock with a new assembly, or installing a new or reworked up-lock hook, terminates the repetitive inspection requirements.



**(i) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Repair Drawing 8/4-32-0190, Issue 1, dated April 2, 2012, which is not incorporated by reference in this AD.

**(j) No Alternative Actions or Intervals**

After accomplishing the revision required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used, except as provided by paragraph (h) of this AD unless the actions or intervals are approved as an alternative method of compliance in accordance with the procedures specified in paragraph (l) of this AD.

**(k) Reporting**

For airplanes on which the requirements of paragraph (g) or (h) of this AD have been accomplished after the effective date of this AD: Within 30 days after the functional check, submit a report of the initial functional check findings using Form No ISETS-03-AOM Q400 in Bombardier Q400 All Operator Message DHC8-400-AOM-515, Revision 2009-06-24, dated April 4, 2012. Send the report to Bombardier, Inc., Technical Help Desk, phone: 416-375-4000; fax: 416-375-4539; e-mail: [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com).

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they were approved by the State of Design Authority (or its delegated agent, or by the Design Approval Holder with a State of Design Authority's design organization approval). For a repair method to be approved, the repair approval must specifically refer to this AD. You are required to ensure the product is airworthy before it is returned to service.

**(3) Reporting Requirements:** A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control

Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2012-21, dated June 25, 2012, for related information. This MCAI can be found in the AD docket on the Internet at

<http://www.regulations.gov/#!documentDetail;D=FAA-2013-0419-0002>.

(2) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**(n) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Q400 All Operator Message DHC8-400-AOM-515, Revision 2009-06-24, dated April 4, 2012.

(ii) Bombardier Repair Drawing 8/4-32-0190, Issue 2, including handwritten annotations, dated January 14, 2013.

(iii) Bombardier Temporary Revision MRB-66, dated December 7, 2011, to Section 1-32, Systems/Powerplant Maintenance Program of MRB Report Part 1, Bombardier Q400 Dash 8 Maintenance Requirements Manual, PSM 1-84-7.

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on February 28, 2014.

Jeffrey E. Duven,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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